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PERSONALITY'S INFLUENCE ON BURNOUT: AN UNFINISHED PUZZLE.

A thesis submitted in partial fulfillment of the
requirements for the degree of
Master of Science

By

DAVID ANDREW PERIARD

B.S., Le Moyne College, 2008

2013
Wright State University

WRIGHT STATE UNIVERSITY

GRADUATE SCHOOL

12/5/2013

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY David Periard ENTITLED Personality Influence on Burnout: An Unfinished Puzzle. BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Science.

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ABSTRACT

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Personality's Influence on Burnout: An Unfinished Puzzle.

This study examines the relationship between emotional exhaustion—the main component of burnout—and several facets of the Big Five Factors of personality. Previous research has found small relationships between the Big Five Factors and emotional exhaustion. I hypothesized that the facets of trust, cooperation, orderliness, and self-discipline will have curvilinear relationships with emotional exhaustion. The facets of vulnerability and depression were also hypothesized to moderate the curvilinear relationships between orderliness and self-discipline and emotional exhaustion. Regression analyses only found a curvilinear relationship between order and personal burnout when vulnerability was controlled for. A significant quadratic-by-linear interaction was found between order and vulnerability with personal burnout. Alternative explanations for results are given, implications are discussed, and future research is suggested.

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Personality's Influence on Burnout: An Unfinished Puzzle

The condition of burnout is correlated with decreased job performance (Parker & Kulik, 1995), lowered job satisfaction (Wolpin, Burke, & Greenglass, 1991), cardiovascular disease in men (Honokonen et al., 2006), and musculoskeletal disorders in women (Honokonen et al., 2006). Burnout is a result of working in a stressful environment for an extended duration; it is characterized by emotional exhaustion, depersonalization/cynicism, and diminished feelings of accomplishment (Maslach & Jackson, 1984). Whereas there is a wellspring of research published on the topic of burnout, researchers have ignored the link between burnout and personality traits until recently (e.g. Parker & Kulik, 1995). In the course of this project, I will examine non-linear relationships between two facets of agreeableness and two facets of conscientiousness with burnout. I will also explore the moderating influence of two facets of emotional stability on the relationship between two facets of conscientiousness and burnout. Finally, I will suggest areas of future research.

Costs of Burnout

There is evidence that burnout could have sizable economic, health, and personal costs for the workforce. Medibank (2011), a private insurance company in Australia, estimated the cost of burnout and presenteeism—employees coming to work when they should be home sick (Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009)—to be 34.1 billion dollars annually for the Australian economy; in 2011 the Australian Gross Domestic Product was 1.4 trillion dollars (World Bank, 2013). On an individual performance level, Parker and Kulik (1995) found that burnout in nurses was correlated with lower supervisor and self-reported job performance. Wright and Cropanzano (1998)

showed that social workers suffering from burnout have lower performance and higher rates of voluntary turnover.

Burnout also has high personal costs. Nurses who experienced burnout also take more sick days and time off for mental health reasons (Parker & Kulik, 1995). There is a link between emotional exhaustion in nurses and lower satisfaction ratings of patients under their care (Leiter, Harvie, & Frizzell, 1998). Cropanzano, Rupp, and Byrne (2003) also found a negative correlation between the emotional exhaustion component of burnout and organizational citizenship behaviors. By analyzing longitudinal data from a sample of teachers, researchers also have found evidence that burnout preceded lower levels of job satisfaction (Wolpin et al., 1991).

A number of health outcomes relate to burnout. Honkonen et al. (2006) uncovered a link between burnout and cardiovascular disease in men and musculoskeletal disorders in women. Ahola, Väänänen, Koskinen, Kuovonen, and Shirom (2010) found that the emotional exhaustion component of burnout was related to a 26% increase in the risk of mortality for forestry workers under the age of 45. Several studies have also demonstrated that burnout is linked to, but is different from, depression (Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001; Bakker et al., 2000). With all the evidence of burnout's detrimental influences on organizations and individuals it is important to learn as much as we can about the roots of burnout.

Defining Burnout

The concept of burnout began to take shape in the 1970s (Freudenberger, 1975, 1977). According to Freudenberger (1975), burnout occurs when the "committed worker tends to take on too much, for too long, and too intensely" (p. 74). He postulated that

total negativity, rigidity, and exhaustion, both physical and emotional, were some of the effects of burnout on clinic workers (Freudenberger, 1975). Maslach and Pines (1979) theorized that burnout was characterized by emotional exhaustion and depersonalization, with Maslach and Jackson (1981) adding a third factor of a reduction of feelings of personal accomplishment. Emotional exhaustion is characterized by an inability to become emotionally involved and feel positive emotions (Maslach & Pines, 1977). The second component, depersonalization, is characterized by the burned out worker treating the people they are assisting as objects (Maslach & Jackson, 1981). The person who is burned out feels as if they are no longer effective in their job, which is referred to as having reduced feelings of accomplishment (Maslach & Jackson, 1981). Over time, research has determined that the central feature of burnout is emotional exhaustion (e.g., Maslach, Schaufeli & Leiter, 2001).

Burnout is not an “all-or-nothing” problem, Golembiewski, Munzenrider, and Carter (1983) proposed an eight phase model of burnout, see Figure 1. They asserted that there are distinct phases of burnout that have different combinations of levels of the three components of burnout. First, Golembiewski et al. (1983) dichotomized the levels of each facet of burnout into “high” or “low” levels based on the participant’s score relative to the median score. The person’s levels classify them into a phase of burnout. For example, someone who is high in emotional exhaustion, low in depersonalization, and low in reduced feelings of personal accomplishment would be classified as being in the fifth phase of burnout (Golembiewski et al., 1983; Golembiewski & Munzenrider, 1984; Golembiewski, 1986). The model allows for people to move through the phases without having to progress in order. For example, a person can go from phase six to phase eight

and back to phase five without passing through the intermediate phases (Golembiewski, Boudreau, Sun, & Luo, 1998). An interesting implication of this model is that everyone is at some phase of burnout. A person who is not suffering from any symptoms of burnout and has low scores on each of the three scales of the MBI still is in the first phase of burnout.

Prevalence of Burnout

In order to determine the prevalence of burnout Golembiewski et al. (1998) conducted a multinational study of public and private employees. Golembiewski et al. (1998) found that a greater percentage of the public workers in North America were in the highest three phases than in the lowest three phases. The differences between the public and private sector were insignificant. Another interesting finding by Golembiewski et al. (1998) was that the results were very bipolar. The majority of workers worldwide were either in the top three phases or the bottom three phases; there were relatively few in the middle two phases (see Figure 1).

Golembiewski et al. (1998) also shone a light on another disturbing detail of burnout. The data collected at the global sites revealed that the percentage of workers in the highest three phases of burnout (60.0%) was nearly triple the percentage of workers in the lowest three phases (21.6%). Four of the sites, and 30% of the global workers sampled in Golembiewski et al. (1998), were in Japan. In Japan, the official term for death or permanent disability from overwork is *karoshi* (Iwasaki, Takahashi, & Nakata, 2006), and the term for suicide by overwork is *karojiastsu* (Hiyama & Yoshihara, 2008). In 2005 alone, *Karoshi* occurred 328 times and there were 42 cases of *karojiastsu* (Hiyama & Yoshihara, 2008). Similar to burnout, some of the symptoms of *karoshi* are

depression and cardiovascular disease (Honkonen et al., 2006; Iwasaka et al., 2006).

There is no literature I can find linking *karoshi* and *karojiatsu* to burnout, but given the common symptomology and causes, it is rational to expect that the two are similar, if not the same, constructs. I see *karoshi* and *karojiatsu* as extreme cases of burnout, the apex of phase eight burnout. The mere existence of these terms is a stark reminder of the possible consequences of extreme cases of burnout.

Measures of Burnout

In 1981, Maslach and Jackson (1981) developed the Maslach Burnout Inventory (MBI). The MBI has become the most popular of the burnout inventories. It is based on the three facet view of burnout. The MBI is composed of three scales: emotional exhaustion, depersonalization, and reduced feelings of personal accomplishment (Maslach & Jackson, 1981). Wheeler, Vassar, Worley, and Barnes (2011) conducted a meta-analysis to determine the overall reliability of the three MBI scales. Wheeler et al. (2011) found that the emotional exhaustion scale was the only scale that had alpha estimates that were consistently above .80. Chao, McCallion, and Nickle (2011) also found that the depersonalization scale of the MBI had low (Cronbach's $\alpha = .63$) reliability.

Originally, researchers theorized burnout only affected employees in service positions: teachers (Maslach et al., 2001), hospital employees (Prosser et al., 1996), mental health workers (Lakin, Leon & Miller, 2008; Leon, Visscher, Sugimura, & Lakin, 2008), and police officers (Golembiewski, Lloyd, Scherb & Munzenrider, 1992). Research has revealed that students (Jiang, Huang & Chen, 2012; Schaufeli, Martínez, Pinto, Salanova & Bakker, 2002), construction workers (Demerouti, Mostert & Bakker,

2010), and workers from a plethora of other occupations (Leiter and Schaufeli, 1996; Maslach et al., 2001; Schutte, Toppinen, Kalimo, & Schaufeli, 2000) all can experience burnout. In order to properly measure burnout in a number of different settings, the MBI has evolved into several versions. The original MBI has become the MBI–Human Services Survey (MBI-HSS, Maslach, Jackson, & Leiter, 1996). The MBI–General Survey (MBI-GS, Schutte et al., 2000) is used for the majority of professions. Maslach et al. (1996) developed the MBI-Educators Survey (MBI-ES) to assess burnout in educators. Schaufeli et al. (2002) designed the MBI-Student Survey (MBI-SS) for assessing burnout in the student population.

The generalization of burnout to all occupations required a change in the nomenclature. Given that in a large number of occupations there is no customer service component, the concept of depersonalization is irrelevant. Researchers have postulated that for depersonalization can be replaced with cynicism: a negative attitude toward one's job (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; González- Romá, Schaufeli, Bakker, and Lloret, 2006). This taxonomy is used for the MBI-GS (Schutte et al., 2000) and MBI-SS (Schaufeli et al., 2002).

More recently Kristensen, Borritz, Villadsen, and Christensen (2005) have developed an alternative to the MBI, the Copenhagen Burnout Inventory (CBI). The CBI is a 19-item measure designed to take into account burnout that extends beyond the workplace (Kristensen et al., 2005). The CBI is similar to the MBI in that it has three scales, but the content of the scales is different. The scales in the CBI are personal burnout, work-related burnout, and client-related burnout (Kristensen et al., 2005). It is important to note that fatigue is the center of the theoretical basis for the CBI; this is in

line with the research that has supported that the most important aspect of burnout is emotional exhaustion (Maslach et al., 2001; Schaufeli & Greenglass, 2001). The CBI does not measure cynicism or reduced feelings of professional efficacy. Researchers have shown that the CBI has good psychometric properties (Milfont, Denny, Amertunga, Robinson, & Merry, 2008; Winwood & Winefield, 2004). When compared to the MBI, Winwood and Winefield (2004) established that the CBI worked as well at identifying people suffering from burnout. One large benefit of the CBI is that it is in the public domain: the MBI is a commercially owned measure. Given the solid psychometric properties and availability of the CBI, I will use the CBI in this study.

Conceptual Models of the Burnout Process

Researchers examining burnout have put forth many theories on the underlying process behind burnout. Two of the dominant theories are the Conservation of Resources (COR) theory and the Job Demands-Resources (JDR) model. Both theories agree that burnout occurs when a person's stocks of coping resources are depleted.

According to COR theory individuals try to obtain, keep, and protect resources (Hobfoll, 1989; Hobfoll & Lilly, 1993); Hobfoll and Lilly (1993) define resources as anything we value or need to obtain more resources. Resources fall into four categories: objects, conditions, personal characteristics, and energies. Hobfoll (1989) defined objects as things that we value because of their physical properties. Conditions are resources, like tenure, if they are valued (Hobfoll, 1989). Personal characteristics are personal traits, such as emotional stability, that aid in stress resistance (Hobfoll, 1989; Hobfoll & Lilly, 1993). Finally, energies are things we value for their ability to be used to obtain other resources, such as time and money (Hobfoll, 1989). According to COR theory,

stress can result from three possibilities: the loss of resources, the threat of the loss of resources, or the failure to gain resources after the investment of resources (Hobfoll, 1989; Hobfoll & Lilly, 1993). According to COR theory, workers become at risk for burnout when the worker's amount of resources is falling faster than it is replenished (Halbesleben, 2006). If the person's resource level falls below a certain level and the worker is unable to regain those resources they have reached burnout (Halbesleben & Buckley, 2004; Halbesleben, 2006).

One of the aspects of COR theory that explains the difficulty of recovering from a loss of resources and burnout are loss spirals: as you lose resources, it becomes harder to gain resources (Gorgievski & Hobfoll, 2008; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008). It takes resources to gain resources, and if the investment of resources does not pay off, you have even less resources left with which to work. This spiral towards burnout is self-perpetuating: loss begets loss until you have nothing left. There is a silver lining; the opposite process is possible: gain begets gain (Gorgievski & Hobfoll, 2008; Hakanen et al., 2008). As you gain resources you can invest more resources in an attempt to replenish your supply. This process is also self-perpetuating: gain resources, invest more, and gain more resources.

According to COR theory, resources are not universally positive. Hobfoll (1985b, as cited in Hobfoll, 1989) postulated that "If resources are only beneficial when they help counteract loss or aid net increase of resources, it also follows that a resource may be detrimental in certain instances." This statement is relevant to the discussion of personality traits. Take for example conscientiousness. Conscientiousness is, in part, a tendency to be well organized and hard-working (Costa, McCrae, & Dye, 1991). Up to a

point, conscientiousness is invaluable in gaining resources: a hard worker is more likely to get tenure and better pay and being well organized helps workers be more efficient. There is a point when this trait is no longer beneficial. If a worker is working constantly and using more resources than he is gaining, conscientiousness is no longer a resource. Also, if a worker goes beyond a helpful level of organization it is not a resource. For example, if you are able to locate the materials you need to complete your job quickly, organization skills are a resource; if you waste a half hour organizing the paper clips in your desk by color instead of finishing your report, organization has stopped being a resource. It is this facet of COR theory that provides a groundwork for curvilinear relationships of personality with burnout.

A similar model for explaining burnout is the JDR model (Demerouti et al., 2001). According to Demerouti et al. (2001), burnout occurs when job demands overwhelm the worker's job resources. The JDR model defines job resources as aspects of the job or person that are functional, reduce demands, or stimulate personal growth. It is important to note that job resources include both external and internal resources. External resources are organizational, such as job control, and social: family and friend support (Demerouti et al., 2001). Internal resources include cognitive abilities, skills, and personality traits (Demerouti et al., 2001). The JDR model states that burnout is a form of self-defense: emotional exhaustion occurs when a worker depletes his or her resources. Workers disengage and become cynical in an effort to preserve and regain resources when cope with the excessive demands placed on them (Demerouti et al., 2001). The JDR theory also includes the concept of loss and gain spirals that COR uses (Schaufeli, Bakker, & van Rhenen, 2009).

Personality as a Predictor of Burnout

During the advent of burnout as a psychological construct, researchers focused on job factors rather than individual differences (Maslach, 1982; Maslach & Jackson, 1984). Maslach (1982) states that “Rather than looking just at ‘defective’ people, we focus our attention on the *situation* in which they find themselves (p. 14, Maslach, 1982; emphasis in original).” Researchers are now interested in personality influences on burnout (Maslach et al., 2001; Alarcon, Eschleman, & Bowling, 2009). For example, using hierarchical regression analysis Zellar, Perrewé, and Hochwarter (2000) found that personality as a whole accounted for a significant amount of variance for all three factors of burnout over and above role conflict, ambiguity, and overload. A possible reason that burnout researchers ignored personality at first is that there was no generally accepted, definitive personality taxonomy during the advent of burnout research. The Five Factor Model alleviated this issue.

The dominant personality model for the past twenty years is the Five Factor Model (FFM), also known as the Big Five model (Digman, 1990; Costa & McCrae, 1992). Evidence for the FFM had begun to accumulate years before its formal establishment. Fiske (1949) found evidence of a five factor model; he named his factors social adaptability, emotional control, conformity, the inquiring intellect, and confident self-expression. After Fiske came Tupes and Christal (1961); they found more evidence for a five factor model and named their factors surgency, agreeableness, dependability, emotional stability, and culture (Tupes & Christal, 1961). Over time the factors evolved to their current taxonomy: extraversion, agreeableness, conscientiousness, emotional

stability/ neuroticism, and openness to new experiences (Barrick & Mount, 1991; Costa & McCrae, 1992; Digman, 1990).

Extensive research has shown the FFM to be useful in predicting job outcomes. Barrick, Mount, and Judge (2001) linked extraversion, sociability, and outgoingness to training performance, teamwork, and managerial performance. Also, Barrick and his colleagues (2001) correlated agreeableness with managerial performance, training performance, and teamwork. Conscientiousness, the tendency to be well organized and a hard worker, predicts job performance across all occupations (Barrick & Mount, 1991; Barrick et al., 2001). Neuroticism refers to the inability to control emotions and has been negatively correlated with training performance, teamwork, and job performance (Barrick et al., 2001). Openness to new experience, creativity, and open-mindedness predict training performance (Barrick et al., 2001).

Costa et al. (1991) stated that each factor of the FFM can be broken down into facets. For example, with the NEO-PI-R, within each factor there are six facets; the facets enable researchers to gather more information regarding the nuances of personality and behavior. Warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions make up the factor of extraversion. The factor of agreeableness contains the facets of trust, straightforwardness, altruism, compliance/cooperation, modesty, and tender-mindedness. Competence, order, dutifulness, achievement striving, self-discipline, and deliberation compose the factor of conscientiousness. Neuroticism overarches the facets of anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability (Costa et al., 1991, Piedmont, 1993). Openness to experience is the culmination of fantasy, aesthetics, feelings, actions, ideas, and values.

Once the common framework of the FFM was established, researchers could better conduct research examining relationships between personality and burnout and easily communicate it to colleagues. Studies have probed the relationship between each of the Big Five Factors and burnout (e.g. Zellars et al., 2000). In many cases there is conflicting evidence for the relationships between the personality traits and burnout. The facet composition of each trait is a possible reason for this confusion. Inside each factor there are facets that cover a wide range of attributes. For example, conscientiousness not only includes being hard working, it also includes desiring order, keeping in control of one's actions, aiming for tough goals, and following the rules. If any of these facets are unrelated to burnout, they will attenuate the relationship between burnout and conscientiousness (Roberts, Chernyshenko, Stark, & Goldberg, 2005). The personality facets will allow us to focus more accurately on the specific pieces of personality are most important in predicting burnout. There is a lack of research examining the facets of the Big Five and their roles in burnout. An exception is a study conducted by Piedmont (1993). Piedmont examined the relationship between the facets of neuroticism, openness, and agreeableness (1993). Unfortunately, the Piedmont study lacked power with only 36 participants and studied a very limited population of occupational therapists.

Researchers have found conflicting evidence when examining the relationship between extraversion and burnout (e.g., Zellars et al., 2000; Alarcon et al., 2009). It is clear that extraversion is a negative predictor of burnout, but there is some dispute over which of the burnout components it is related. Zellars et al. (2000), Zellars, Hochwarter, Hoffman, Perrewé, & Ford (2004), and Alarcon et al. (2009) found evidence that extraversion was negatively correlated with all three burnout components. Bakker, Van

Der Zee, Lewig, and Dollard (2002) found evidence that extraversion was negatively related to depersonalization and feelings of diminished personal accomplishment.

Ghorpade, Lackritz, and Singh (2007, 2011) found extraversion to be negatively correlated with emotional exhaustion and decreased feelings of accomplishment.

Analysis by Piedmont (1993) failed to find a significant relationship between extraversion and burnout. One facet of extraversion, excitement seeking, was positively correlated with emotional exhaustion; a second facet of extraversion, activity, was found to be positively correlated with increased feelings of personal accomplishment (Piedmont, 1993).

A curvilinear relationship would explain the relatively low correlations between emotional exhaustion and agreeableness (mean $\rho = -.15$) and emotional exhaustion and conscientiousness (mean $\rho = -.19$) found in the Alarcon et al. (2009) meta-analyses.

When a correlation is calculated for a curvilinear relationship the correlation coefficient will be small as there is not a linear trend. The curvilinear relationships would also be in line with the original observations of burnout (Freudenberger, 1975, 1977).

Freudenberger (1977) noted that burned out individuals spent more and more time at work and accomplished less and less. It is unlikely that a person who was low in conscientiousness would stay longer at work.

Researchers have found curvilinear relationships between conscientiousness and job performance (LaHuis, Martin, & Avis, 2005; Le et al., 2011). LaHuis et al. (2005) and Le et al. (2011) found that conscientiousness is related positively to job performance up to a point. Beyond that point, conscientiousness was linked to decreased job

performance. Given the presence of these other curvilinear relationships between personality traits and outcomes, it is likely that there are more to be found.

Some facets of agreeableness may have a curvilinear relationship with burnout. Someone who is extremely high on agreeableness and might have difficulty saying “no” to added assignments; helplessly agreeing to take on the added burden they cannot handle. Evidence of this can be found in the research of Jonge and Schaufeli (1998) that demonstrated a curvilinear relationship between social support and emotional exhaustion. It is unlikely that the people Jonge and Schaufeli (1998) found with the overabundance of social support were low in agreeableness; unfortunately they did not include personality factors in their research. This overabundance of social support may have resulted in more social pressure and conflicting obligations. A worker may be being crushed by their workload but has still agreed to several social events that they would rather not attend. These social events compound the enormous stress that the person is already under, draining the last of their resources away regardless of the intention of his friends. The three factors of burnout were found to be negatively correlated with agreeableness (Zellars et al., 2000; Ghorpade et al., 2007, 2011). The Alarcon et al. (2009) meta-analysis also posited that agreeableness is negatively correlated with the components of burnout. Piedmont (1993) found significant negative relationships between agreeableness and the burnout factors emotional exhaustion and diminished personal accomplishment.

I hypothesize that two of the facets of agreeableness, trust and cooperation, have a curvilinear relationship with burnout. Both of these facets are beneficial in moderate amounts; a person who is trusting and cooperative is an excellent team player and has

positive relationships with his or her coworkers. With high levels of trust and cooperation the person might be taken advantage of by coworkers. Coworkers push their projects on to the person because they know the person will not complain or stand up for his or herself. The person then burns out under the extreme workload.

Hypothesis 1: Trust and cooperation will have a curvilinear relationship with personal and work-related burnout. Trust and cooperation will initially have a negative relationship with personal and work-related burnout; after a point trust and cooperation will be positively associated with personal and work-related burnout.

I suspect there is also a complicated relationship between conscientiousness and burnout. I propose that there is a curvilinear relationship between some of the facets of conscientiousness—specifically order and self-discipline—and burnout. Order and self-discipline are a tendency to be well ordered and a committed worker respectively (Costa et al., 1991); Freudemberger's (1975) original observations about burnout, "the committed worker tends to take on too much, for too long, and too intensely", suggest that it was workers who were high in self-discipline that were becoming burned out.

More evidence that self-discipline may have a positive relation to burnout at extreme levels is *karoshi*. I have been unable to find any literature investigating the personality traits of workers who suffered from *karoshi* or committed *karojiastu*; I think it is a rational, logical argument that a person who dies or is disabled from overwork is high in self-discipline. It is improbable that someone who is low in self-discipline will be dedicated to their job enough to push themselves to the extremes of overwork.

A person's desire for order could also have a curvilinear relationship with burnout. At low levels of order a person's stress may be increased because they can't

find what they need to complete a task which increases time pressure; they also may forget meetings or appointments which can cause stress. A person with a moderate level of the order facet will not undergo the same stresses: They will put things where they can find them and keep track of their time and work obligations. Unfortunately, after a certain level of order the stress may begin to increase again. The extremely ordered person may become transfixed on small details and be unable to focus on tasks; rather than completing the project and moving on, they may wind up worrying about insignificant details, such as the orientation of all of the objects on their desk. Worrying about these minor details could increase stress and lead to an increased chance of burnout.

Hypothesis 2: The facets of conscientiousness—order and self-discipline—will have a curvilinear relationship with personal and work-related burnout. Order and self-discipline will initially have a negative relationship with personal and work-related burnout; after a point they will be positively associated with personal and work-related burnout.

Researchers have found a negative correlation between emotional stability and all three of the components of burnout: emotional exhaustion, depersonalization, and lack of personal accomplishment (Bakker et al., 2002; Morgan, de Bruin, 2010; Zellars et al., 2000; Zellars et al., 2004). Piedmont (1993) found that only the facet of vulnerability was correlated with all three factors of burnout; emotional stability itself and the facets of anxiety and depression were found to be only correlated with emotional exhaustion and depersonalization (Piedmont, 1993). A meta-analysis by Alarcon et al. (2009) found

emotional stability to be a predictor of emotional exhaustion, depersonalization and feelings of diminished feelings of accomplishment.

When examining the facets of emotional stability two stand out as being more related to emotional exhaustion than the rest: depression and vulnerability. People high in the facet of depression tend to feel sad and hopeless. As mentioned previously, Maslach and Pines (1977) posited that, in part, emotional exhaustion is an inability to experience positive emotions. If a person feels sad, they cannot experience positive emotions at the same time which predisposes them to emotional exhaustion.

Vulnerability is a person's tendency to get overwhelmed and stressed. This essentially makes a person have a higher baseline of stress, which makes them more likely to get burned out.

Hypothesis 3: People with higher levels of vulnerability will have a higher level of personal and work-related burnout; also, people with higher levels of depression will have higher levels of personal and work-related burnout.

Hypothesis 4: The facets of emotional stability, vulnerability and depression, will moderate the relationship between the facets of conscientiousness and personal and work-related burnout. At low levels of vulnerability and depression the correlation will be near linear and negative. As depression and vulnerability increase the correlation will increase, representing a U shaped relationship.

One trait associated with neuroticism is negative affectivity. A person who is high in neuroticism is often predisposed to negative states such as depression and anxiety (Costa & McCrae, 1992). Negative affectivity is characterized as being very susceptible to negative emotions including anger, contempt, and nervousness (Watson, Clark, &

Tellegen, 1988). Alarcon et al. (2009) found evidence that negative affectivity is positively correlated with the three components of burnout. Zellars et al. (2004) and Iverson, Olekalns, and Erwin (1998) also found positive correlations between negative affectivity and the trinity of burnout. Wright and Cropanzo (1998) found a very strong positive relationship between negative affectivity and emotional exhaustion.

Openness to experience was negatively correlated solely with feelings of lack of accomplishment (Zellars et al., 2000; Ghorpade et al., 2007, 2011; Alarcon et al., 2009). A possible reason that openness to experience may buffer a person from reduced feelings of accomplishment is that their creative mindset helps them find a different way at what others would see as failures. A single facet of openness, values, was found by Piedmont (1993) to positively correlate with depersonalization.

Method

Participants

Participants were 440 students attending psychology classes at a medium sized Midwestern university. The sample was predominantly female (72.5%) and Caucasian (71.4%). The ages of the participants ranged from 16 to 45 with a mean of 20.4 years of age and a standard deviation of 5.3 years. All students received research participation credits for completing the survey.

A number of attempts were made to find a sample of working adults to conduct this research. I contacted a number of large health care and human services organizations about participating; one agreed, but there were few participants ($N = 14$). I also used a ‘snowballing’ technique to further develop a field sample, but results have been less than desirable ($N = 38$), a response rate of approximately 15%.

Measures

Personality. Personality traits will be assessed using several of the scales in the International Personality Item Pool (IPIP) measure adapted from Costa and McCrae’s (1992) NEO Personality Inventory – Revised (NEO-PI-R). I will use the trust (e.g. ‘Believe most people are well intentioned’), cooperation (e.g. ‘Can’t stand confrontations’), orderliness (e.g. ‘Do things according to a plan’), self-discipline (e.g. ‘Get chores done right away’), depression (e.g. ‘Dislike myself’), vulnerability (e.g. ‘Panic easily’), and openness to experience (e.g. ‘Believe in the importance of art’). Each item is rated on a graphic scale with response ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) graphic response scale. The IPIP scales have been shown to have a comparable validity and reliability to the original measure (Goldberg, 1999). Each scale

is composed of 10 items. Openness to experience is included as a marker variable (Podsakoff, MacKenzie, Lee, Podsakoff, 2003). I do not theorize openness to experience to correlate with the burnout scales; if openness to experience correlates with burnout scales, it may be evidence of common method bias. Items are shown in Appendix A.

Burnout. The Copenhagen Burnout Inventory (CBI, Kristensen et al., 2005) will be used to assess burnout. This study will use two of the three scales: personal burnout ('How often do you feel tired', 6 items, $\alpha = .85$) and work-related burnout ('Do you feel worn out at the end of the working day', 7 items, $\alpha = .73$). The CBI items are scored on a 100-point graphic rating scale for frequency or intensity. The scale ranges from 0 ('Never/ almost never' or 'to a very low degree') to 100 ('Always' or 'to a very high degree'). The scales are scored by adding the scores within each scale together and then dividing by the number of items in each scale. Appendix B contains the items of the CBI.

Demographics. Participants were asked demographics questions that assessed age, race, gender, major, and year of school (e.g. freshman, sophomore, etc.) using an open response format. Appendix C contains the demographic items used in this survey.

Check Question. A single check question was used: "Should we use your data in our analyses? In other words, have you paid attention to the questions and answered truthfully? Your answer to this question will not affect the credit you have received for participating in this survey." This technique is an effort to identify participants who were using insufficient effort in answering the survey. This method is advocated by Meade and Craig (2012).

Procedure

The questionnaire was administered via the internet survey platform, Qualtrics. The first page of the survey contained an informed consent form with my contact information (Appendix D); it also outlined that there were no risks or benefits associated with participation in the study. The informed consent form also included that the participants could quit from the study with no consequences. The survey collected no personal, identifying information. The link to the survey was distributed via the SONA system. Introductory psychology students who participated received research participation credits.

Results

The first analysis I completed were the correlation analyses, the results can be found in Table 1. Table 1 provides the descriptive statistics (i.e. means and standard deviations) the reliability estimates for each scale, and the correlations between variables. Of importance in the correlational analyses is that openness—the marker variable—is not correlated with personal burnout and weakly correlated with work-related burnout. This lack of a correlation suggests that common method variance is not an issue with this data set (Podsakoff et al., 2003).

Personal and work-related burnout were significantly correlated with many of the personality variables. Trust was negatively correlated with personal ($r = -.35, p < .05$) and work-related ($r = -.19, p < .05$) burnout. Cooperation also had a significant correlation with personal ($r = -.14, p < .05$) and work-related ($r = -.14, p < .05$) burnout. Order was not correlated with either facet of burnout. Self-discipline had negative correlations with personal ($r = -.25, p < .05$) and work-related ($r = -.29, p < .05$) burnout. Vulnerability had positive correlations with personal ($r = .54, p < .05$) and work-related

($r = .45, p < .05$) burnout; depression also had positive correlations with personal ($r = .57, p < .05$) and work-related ($r = .40, p < .05$) burnout. Although these results support hypothesis 3, this hypothesis is revisited below.

Regression Analyses

In order to alleviate multicollinearity in the regression analyses, I mean centered all of the personality facets. To calculate the squared terms that are necessary to determine if there is a quadratic relationship, I squared the centered facet terms. The control variables of age, gender, and ethnicity were analyzed with each regression analyses; previous research has linked gender (Purvanova & Muros, 2010), age (Brewer & Shepard, 2004), and ethnicity (Dyrbe et al., 2007) to emotional exhaustion. Controlling for these variables will allow us to get a more accurate picture of how the independent variables influence burnout. Appendix E contains loess plots of the relationships between the variables with hypothesized curvilinear relationships with the two types of burnout.

Trust and Cooperation. To test Hypothesis 1, I conducted a number of hierarchical regressions. Trust was found to predict a significant portion of the variance ($\beta = -.34, p < .05, \Delta R^2 = .11, \text{Cohen's } f^2 = .13, p < .05$) in personal burnout over the control variables of age, gender, and ethnicity; however, the quadratic trust term did not predict any incremental variance in personal burnout over the linear trust term ($\Delta R^2 = .00, \text{Cohen's } f^2 = .00, p > .05$). The relationship between trust and personal burnout and work-related burnout are depicted in Figure 2 and Figure 3 respectively. The results of the regression analyses for trust can be found in Table 2. In work-related burnout, the addition of the linear trust term ($\beta = -.15, p < .05, \Delta R^2 = .03, \text{Cohen's } f^2 = .04, p < .05$)

predicted a statistically significant portion of the variance while the quadratic term did not ($\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p > .05$). These results do not support Hypothesis 1.

In personal burnout, the linear cooperation term predicted a significant amount of variance ($\beta = -.17$, $p < .05$, $\Delta R^2 = .02$, Cohen's $f^2 = .02$, $p < .05$) over the control variables. The quadratic term did not add any incremental variance over the linear term for personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). In the case of work related burnout, the linear cooperation term ($\beta = -.13$, $p < .05$, $\Delta R^2 = .02$, Cohen's $f^2 = .02$, $p < .05$) predicted a statistically significant variance; the quadratic cooperation term failed to account for any significant incremental variance ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). The results of the regression analyses for cooperation can be found in Table 3. Figure 4 and Figure 5 display the relationships between cooperation and personal burnout and work-related burnout respectively. These results do not support Hypothesis 1.

Order and Self-Discipline. Hypothesis 2 was tested in the same manner as Hypothesis 1. For personal burnout, the linear order term did not add account for any incremental variance over the control variables ($\beta = -.09$, $p > .05$, $\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p > .05$). The quadratic order term also did not account for significant incremental variance over the linear term ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). The same pattern was found with work-related burnout: neither the linear order term ($\beta = -.03$, $p > .05$, $\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p > .05$) nor the quadratic term ($\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p > .05$) accounted for any incremental variance over the control variables. The results of the regression analyses for order can be found in Table 3; the relationships between order and personal burnout and work-related burnout are illustrated in Figure 6 and Figure 7. These results do not support Hypothesis 2.

The linear self-discipline term did account for a significant amount of incremental variance in personal burnout ($\beta = -.17, p < .05, \Delta R^2 = .06$, Cohen's $f^2 = .07, p < .05$). The quadratic self-discipline term did not account for a significant portion of the variance in personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00, p > .05$). Work related burnout showed a similar pattern: the linear self-discipline term accounted for significant incremental variance over the control variables ($\beta = -.22, p < .05, \Delta R^2 = .07$, Cohen's $f^2 = .08, p < .05$); the quadratic self-discipline term did not account for any additional variance ($\Delta R^2 = .00$, Cohen's $f^2 = .00, p > .05$) over the linear term. The relationships between self-discipline and personal burnout and work-related burnout can be found in Figure 8 and Figure 9. The results of the regression analyses for self-discipline are displayed in Table 4. These results do not support Hypothesis 2.

Depression and Vulnerability. Given that I did not hypothesize that there is a curvilinear relationship between depression, vulnerability, and either burnout component, I only analyzed the linear terms. Depression, when entered into the equation alone, predicted a significant portion of the variance in personal burnout over the control variables ($\beta = .50, p < .05, \Delta R^2 = .29$, Cohen's $f^2 = .43, p < .05$); depression also predicted a significant portion of the variance in work-related burnout ($\beta = .29, p < .05, \Delta R^2 = .13$, Cohen's $f^2 = .16, p < .05$).

Vulnerability predicted a significant portion of the variance in personal burnout ($\beta = .51, p < .05, \Delta R^2 = .25$, Cohen's $f^2 = .35, p < .05$) and work-related burnout ($\beta = .44, p < .05, \Delta R^2 = .16$, Cohen's $f^2 = .20, p < .05$) over the control variables. These results support Hypothesis 3.

Moderated Multiple Regression

In order to test the quadratic-by-linear interaction that I postulated in Hypothesis 4 I followed the procedure advocated by Virick, DaSilva, and Arrington (2010). Virick et al. first regressed the dependent variable onto the control variables. Second they added the linear predictors. In Step 3 the researchers added the interaction between the linear predictors. The squared predictor term was added in Step 4. Finally in Step 5, the interaction between the squared predictor and the other linear predictor was entered.

Order X Depression. The first moderator I tested for was depression's moderating effect on order's relationship with personal burnout. The results are in the top left quadrant of Table 8. First, personal burnout was regressed onto the control variables age, gender, and ethnicity. In Step 2, personal burnout was regressed onto order ($\beta = .02, p > .05$) and depression ($\beta = .52, p < .05$) which resulted in a significant increase in the variance explained ($\Delta R^2 = .29$, Cohen's $f^2 = .43, p < .05$). In Step 3, the order-by-depression interaction was added; the interaction did not account for a significant portion of the variance in personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00, p > .05$). Step 4, the addition of the squared order term, did not account for any incremental variance in personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00, p > .05$). The addition of the quadratic-by-linear interactions in Step 5 also did not account for any incremental variance in personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00, p > .05$). These results do not support Hypothesis 4: depression does not moderate a curvilinear relationship between order and personal burnout.

The same procedure was followed for testing for a quadratic-by-linear interaction of depression with order for work-related burnout (See Table 8, top left quadrant). Only Step 2: the addition of order ($\beta = .00, p > .05$) and depression ($\beta = .32, p < .05$) accounted

for a significant amount of the variance in work-related burnout ($\Delta R^2 = .13$, Cohen's $f = .16$, $p < .05$). Again, there was no support for Hypothesis 4: there was no moderation of a curvilinear relationship because there was no curvilinear relationship between order and work-related burnout and the quadratic-by-linear interactions were not significantly significant.

Order X Vulnerability. I then examined vulnerability's influence on the relationship between order and personal burnout (Table 8, bottom-left quadrant) following the same procedure outlined above. Step 2—the addition of order ($\beta = -.02$, $p > .05$) and vulnerability ($\beta = .47$, $p < .05$)—accounted for significant incremental variance over the control variables ($\Delta R^2 = .26$, Cohen's $f^2 = .37$, $p < .05$). There was no significant interaction between order and vulnerability in Step 3 ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). The addition of the squared order term ($\beta = .14$, $p < .05$) in Step 4 accounted for a non-significant portion of the variance in personal burnout ($\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p > .05$). The addition of the quadratic-by-linear interaction between order and vulnerability did account for additional variance in personal burnout ($\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p < .05$). The interaction is illustrated in Figure 15. This finding partially supports Hypothesis 4.

The test of vulnerability's moderation of the relationship between order and work-related burnout did not turn out as expected in Hypothesis 4 (Table 8, bottom-right quadrant). Step 2, the addition of order ($\beta = -.02$, $p > .05$) and vulnerability ($\beta = .37$, $p < .05$), accounted for a significant portion of the variance in work-related burnout ($\Delta R^2 = .16$, Cohen's $f^2 = .20$, $p < .05$). The quadratic order term approached statistical

significance ($\Delta R^2 = .01$, Cohen's $f^2 = .01$, $p = .053$). The quadratic-by-linear interaction was not significant ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$)

Self-Discipline X Depression. I searched for a depression moderated curvilinear relationship between self-discipline and personal burnout the same way as I did for order. The results can be seen in Table 9 (top-left quadrant). Step 2—the addition of self-discipline ($\beta = .03$, $p > .05$), depression ($\beta = .53$, $p < .05$)—accounted for incremental variance over the control variables ($\Delta R^2 = .29$, Cohen's $f^2 = .43$, $p < .05$). When the linear interaction was added in Step 3 there was no significant increase in variance accounted for ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). Step 4 was the inclusion of the squared self-discipline term ($\beta = .06$, $p > .05$) which did not account for a significant amount of incremental variance over and above the previous steps ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$). The addition of the quadratic-by-linear interactions in Step 5 did not account for a significant portion of the remaining variance in personal burnout ($\Delta R^2 = .00$, Cohen's $f^2 = .00$, $p > .05$); this does not support Hypothesis 4.

The same procedure was followed again for work-related burnout. Step 2—the addition of self-discipline ($\beta = -.10$, $p > .05$) and depression ($\beta = .36$, $p < .05$) accounted for a significant amount of the variance in work-related burnout ($\Delta R^2 = .15$, Cohen's $f^2 = .19$, $p < .05$). The addition of the linear interaction between depression and self-discipline accounted for an additional 1% of the variance in work related burnout; this was significant at the $p < .10$ level, (Stone-Romero and Liakhovitski (2002) advocate using the .10 Type I error rate when searching for moderators to compensate for the poor power of moderation tests.) The interaction is displayed in Figure 16. The final two

steps did not account for any incremental variance in work-related burnout. This also does not support Hypothesis 4.

Self-Discipline X Vulnerability. I investigated the moderating effects of vulnerability on the relationship between personal burnout and self-discipline next. Step 2—the addition of self-discipline ($\beta = -.05, p > .05$) and vulnerability ($\beta = .51, p < .05$)—accounted for incremental variance over the control variables ($\Delta R^2 = .26$, Cohen's $f^2 = .37, p < .05$). Steps 3, 4, and 5 failed to account for any incremental variance in personal burnout.

Finally, I examined the effects of vulnerability on the relationship between work-related burnout and self-discipline. When self-discipline ($\beta = -.14, p < .05$) and vulnerability ($\beta = .36, p < .05$) were added to the regression equation they accounted for a significant portion of the variance in work-related burnout ($\Delta R^2 = .17$, Cohen's $f^2 = .22, p < .05$). The remaining three steps did not account for any additional variance in work-related burnout.

Discussion

Summary of Results

The results of the data analysis revealed no support for Hypothesis 1: trust and cooperation did not have a curvilinear relationship with the components of burnout. The data also did not support Hypothesis 2: there was no evidence of a curvilinear relationship for order and self-discipline with personal and work-related burnout. Depression and vulnerability both positively predicted personal and work-related burnout, which supported Hypothesis 3.

The results for Hypothesis 4 are a little more complicated. I did not find any quadratic-by-linear interactions between the two neuroticism facets and self-discipline when examining personal or work related burnout. There was a simple linear interaction between self-discipline and depression with work-related burnout. While this interaction demonstrates that depression does influence the relationship between self-discipline and work-related burnout, it was not in the hypothesized manner. When I examined the possibility of depression being a moderator in the relationship between order and the two types of burnout there were no significant interactions. The same non-significant results were found for vulnerability moderating the relationship between order and work-related burnout. These results do not support Hypothesis 4. In support of Hypothesis 4, vulnerability did moderate the relationship between personal burnout and the squared order term. As illustrated in Figure 15; order has a differential relationship with personal burnout dependent on level of vulnerability. People with a low level of vulnerability enjoyed reduced levels of burnout with increased order. When they had high levels of vulnerability, people with high or low order levels experienced less personal burnout than the people with a moderate order level.

Implications

This research has a number of possible implications. First, this research project examined facet level relationships with burnout; the only facet-burnout research was conducted by Piedmont (1993). Unfortunately, the Piedmont study was underpowered—only 28 participants—and only studied occupational therapists. These drawbacks make the study much harder to generalize to a larger population. With our much larger sample size our statistical power was significantly higher and makes the results more tenable.

The two facets used in this study that overlapped with Piedmont (1993)—depression and vulnerability—showed similarly high correlations with emotional exhaustion.

To the best of my knowledge, there have been no studies looking at the relationship between facets of agreeableness and conscientiousness and burnout. It is interesting to note that the correlations between cooperation ($r = -.14$) and trust ($r = -.35$) with personal burnout are on either side of the mean rho ($\rho = -.15$) found by Alarcon et al. (2009). The same is true for the conscientiousness facets: the correlations of order ($r = .09$) and self-discipline ($r = -.25$) with personal burnout are on either side of the mean rho ($\rho = -.19$) in the Alarcon et al. (2009) meta-analysis. The differences between the two conscientiousness facets illustrate the fact that facets can have differential effects on burnout. This also offers an alternative explanation for the low correlation between conscientiousness and burnout: rather than the relationship being the result of a quadratic relationship, the poor relationship could be a product of attenuation from unrelated facets in conscientiousness.

This study also examined whether there are higher order relationships between personality and burnout. The results of this study demonstrate that for the most part the relationship between the personality traits studied here and burnout are linear in nature. That being said, the existence of an order-vulnerability quadratic-by-linear interaction hints that there are still higher order relationships to be found.

Limitations

This study had a number of limitations. First is the possibility of common method variance. Since I used all self-report measures the correlations and relationships may have been inflated by the use of a single method of data collection. In order to account

for common method variance, I used a marker variable, openness to experiences, as advocated by Podsakoff et al. (2003). Since prior research has demonstrated that there is no correlation between openness to experience and burnout, any correlation between openness and burnout could be seen as being caused by common method variance. As can be seen in Table 1, there is no correlation between personal burnout and openness; there is only a very slight ($r = -.10, p < .05$) correlation between openness and work-related burnout. These very small correlations provide evidence that common method variance is not a serious problem in the data set.

A second limitation from most researchers' perspectives is that it uses solely a student sample; however, given that I am not hypothesizing about a specific population (Highhouse & Gillespie, 2009), the use of students should not be an issue. As mentioned in the introduction, researchers have found burnout in workers in a wide variety of occupations, including students. Given the lack of data demonstrating that college students' personalities and experiences of burnout are different from those of a working adult, the use of a student sample is justifiable in basic research such as this (Highhouse & Gillespie, 2009). There is no solid evidence that laboratory studies using students are different from field studies (Campbell, 1986; Highhouse & Gillespie, 2009).

A third limitation of the study is the narrowness of the focus. In order to keep the research instrument at a manageable length I was restricted to six facets and openness to experience. Ideally, the survey would have contained more of the 30 facets that make up the Big Five Factors. For this research, I selected the facets that I thought had the soundest theoretical foundation for a quadratic relationship.

Future Research

There are numerous areas that future researchers could explore. First, a more in-depth examination of the facet relationships with burnout using all of the facets would be very beneficial. There have been no studies to my knowledge that have undertaken this task. Piedmont (1993), which was underpowered, only examined the facets of openness to new experiences, extraversion, and neuroticism. A more in-depth examination of the interplay between the facets and burnout would give us a more comprehensive view of what parts of each factor are most influential in burnout.

Future researchers could also replicate this study using an organizational sample. While Campbell (1986) and Highhouse and Gillespie (2009) assert that there are no documented differences between students and working adults, it would still be valuable to test these relationships in a different population and see if the same relationships hold.

A third possible avenue for future research could be using methods other than self-reports. It would be beneficial to have self-reports of personality and burnout and have an acquaintance complete the same survey regarding the participant. It would also be intriguing to see how well close others' perceptions of a person's level of burnout match self-perceptions of burnout.

Conclusion

While this research did not find quadratic relationships between personality and burnout as hypothesized, it completed a number of important goals. Burnout researchers have neglected the use of personality facets; this study helps to demonstrate their utility as predictors of burnout. The quadratic-by-linear interaction of the order and personal burnout relationship by vulnerability found in this research demonstrates that there are higher level relationships that need examining in the personality and burnout literature.

INFLUENCE OF PERSONALITY ON BURNOUT

This thesis provides a solid platform for future researchers to build from for personality and burnout literature.

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Figure 1. The phases of burnout.

	Phases of Burnout							
	I	II	III	IV	V	VI	VII	VIII
Depersonalization	Low	High	Low	High	Low	High	Low	High
Personal Accomplishment (Reverse Scored)	Low	Low	High	High	Low	Low	High	High
Emotional Exhaustion	Low	Low	Low	Low	High	High	High	High

Adapted from "Estimates of Burnout in Public Agencies: Worldwide, How Many Employees Have Which Degrees of Burnout, and with What Consequences?" by R. Golembiewski, R. Boudreau, B. Sun, and H. Luo, 1998, *Public Administration Review*, 58(1), p. 60.

Figure 2: Trust and Personal Burnout

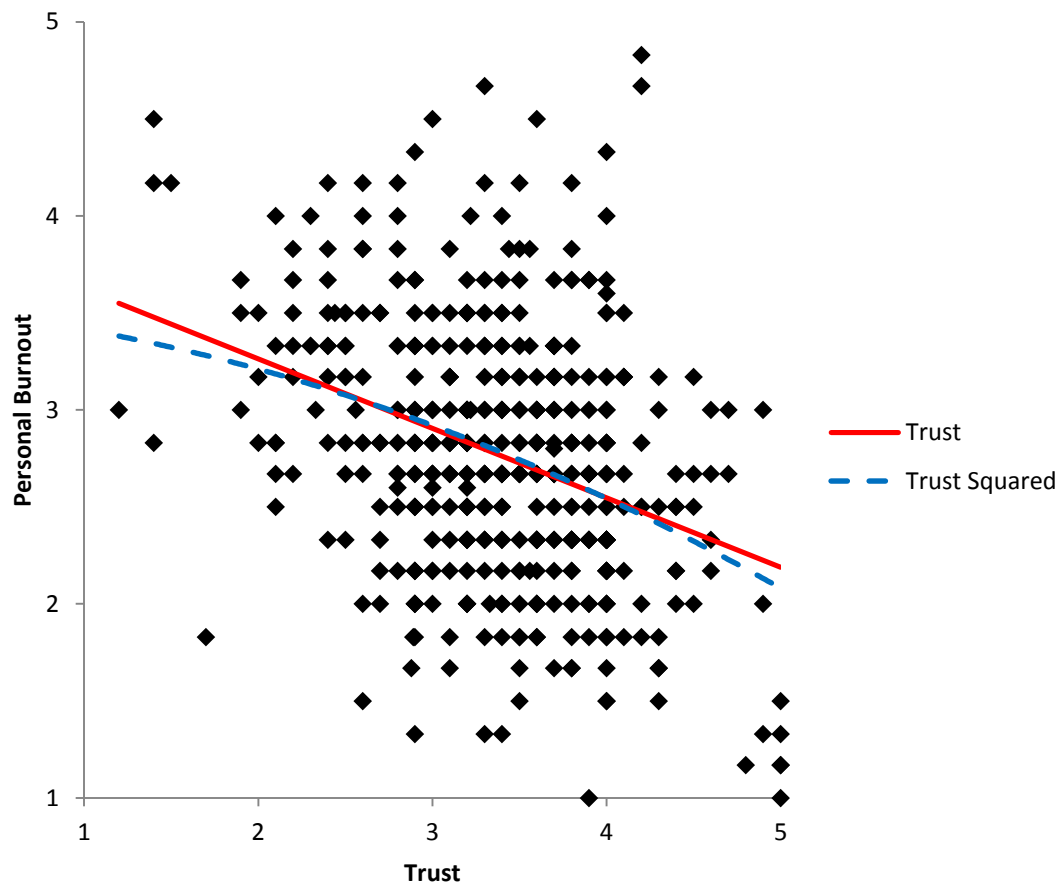


Figure 3: Trust and Work-Related Burnout.

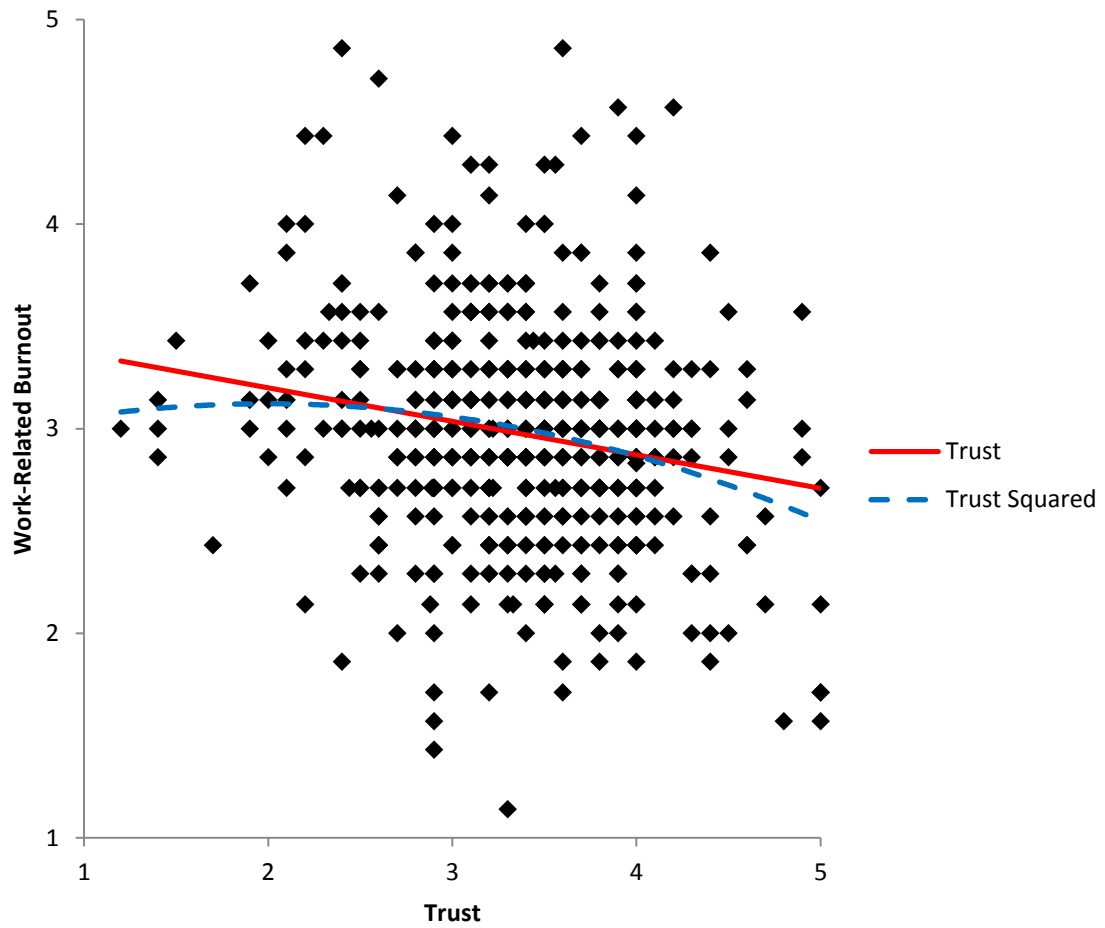


Figure 4: Cooperation and Personal Burnout.

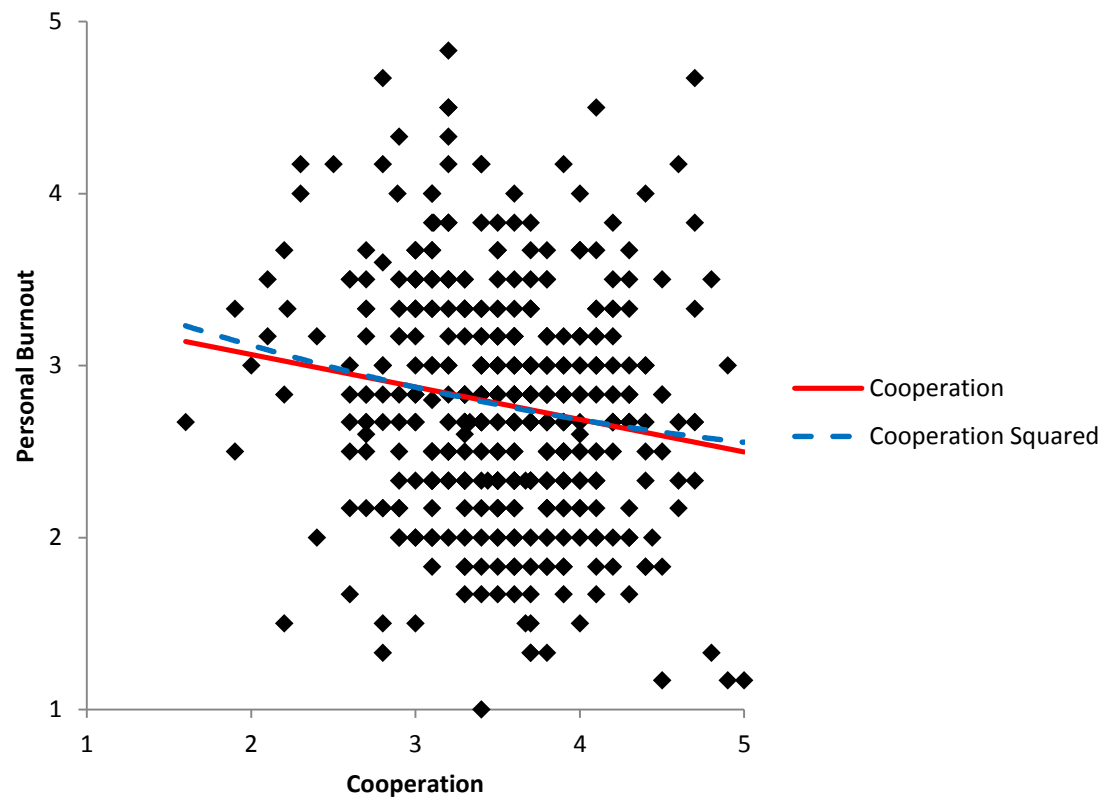


Figure 5: Cooperation and Work-Related Burnout.

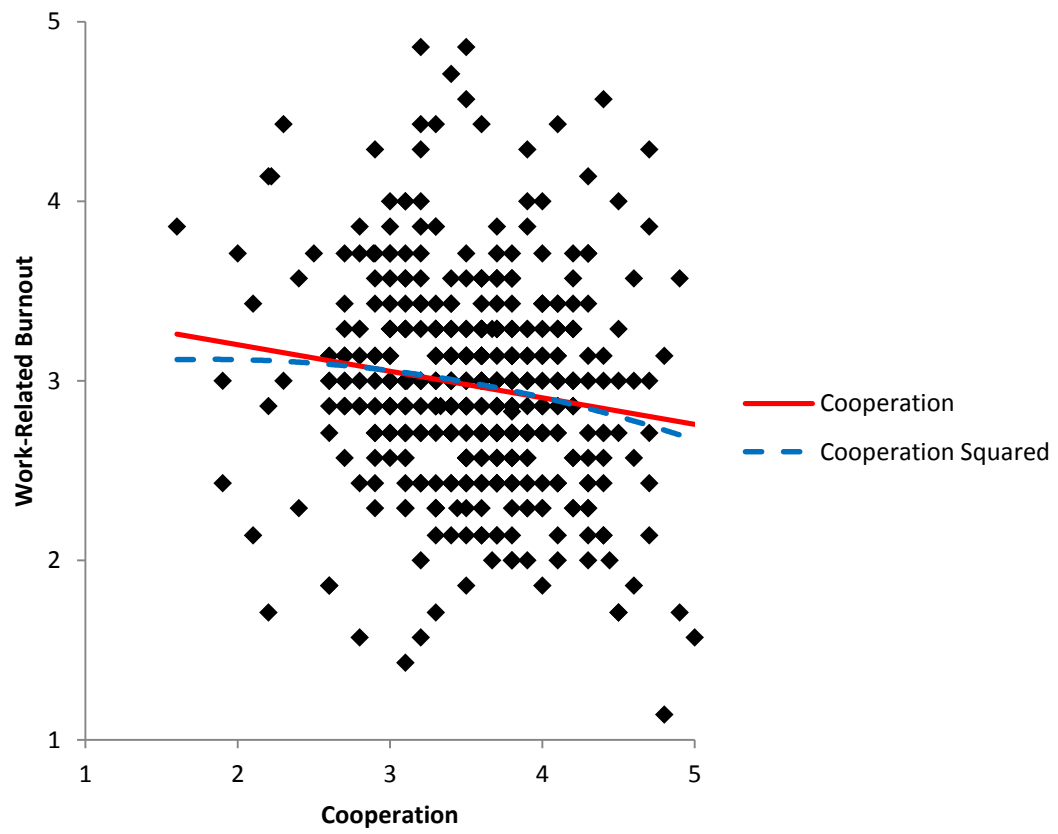


Figure 6: Order and Personal Burnout.

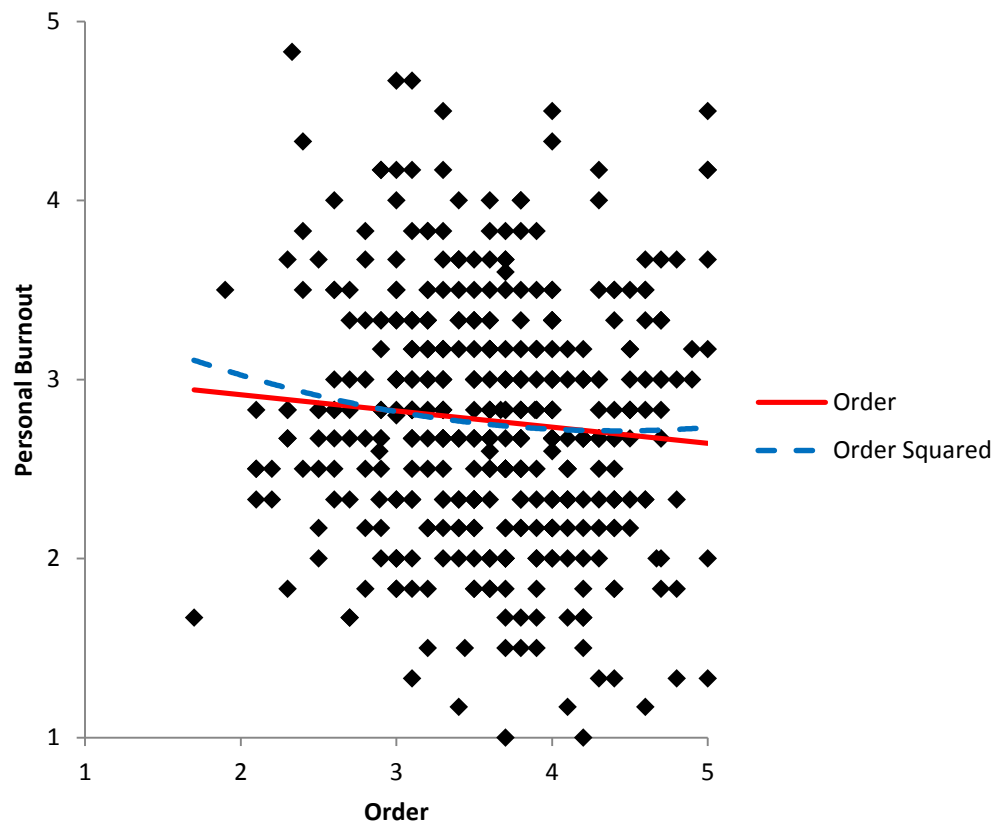


Figure 7: Order and Work-Related Burnout.

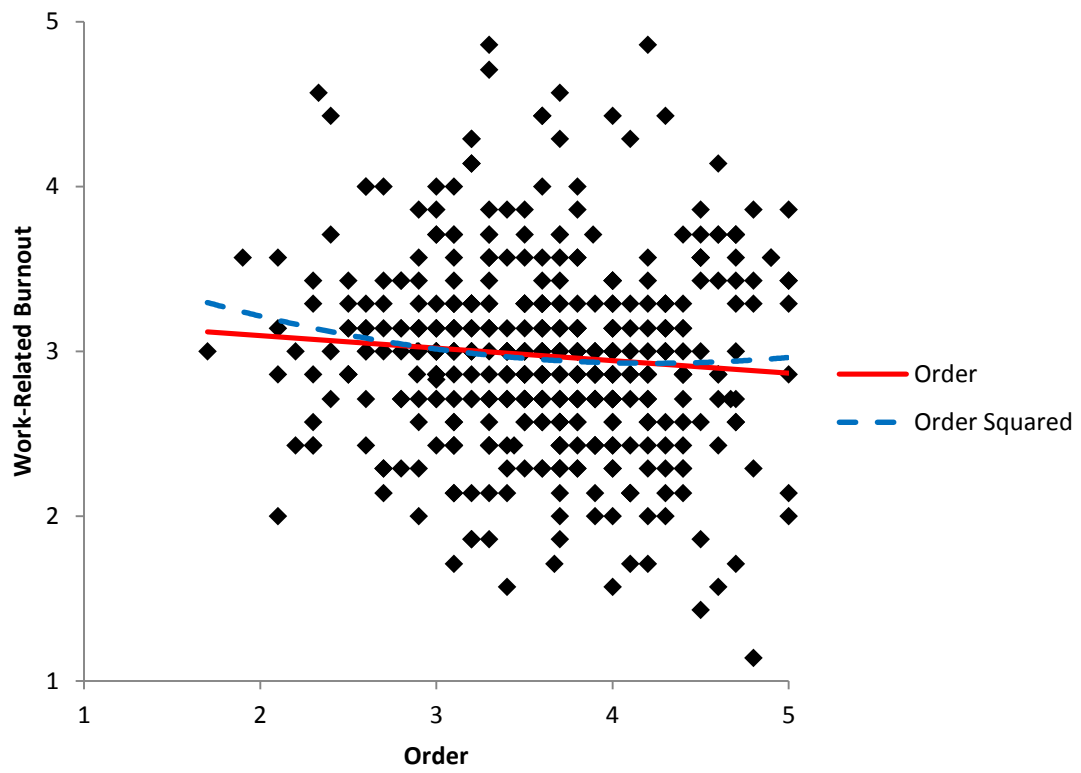


Figure 8: Self-Discipline and Personal Burnout.

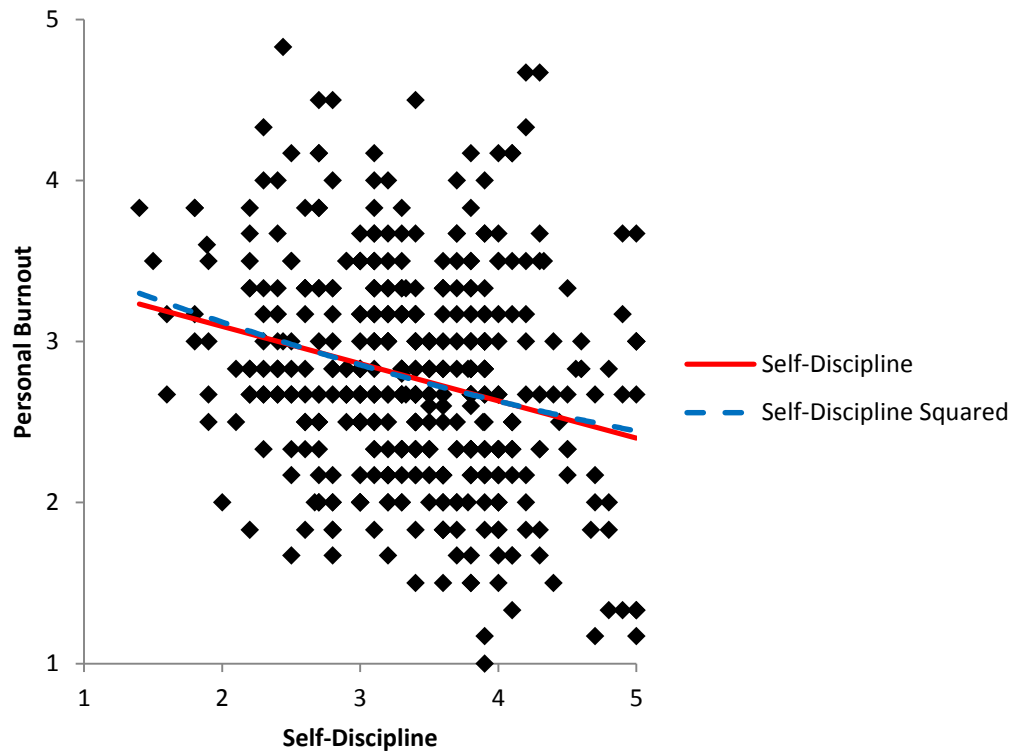


Figure 9: Self-Discipline and Work-Related Burnout.

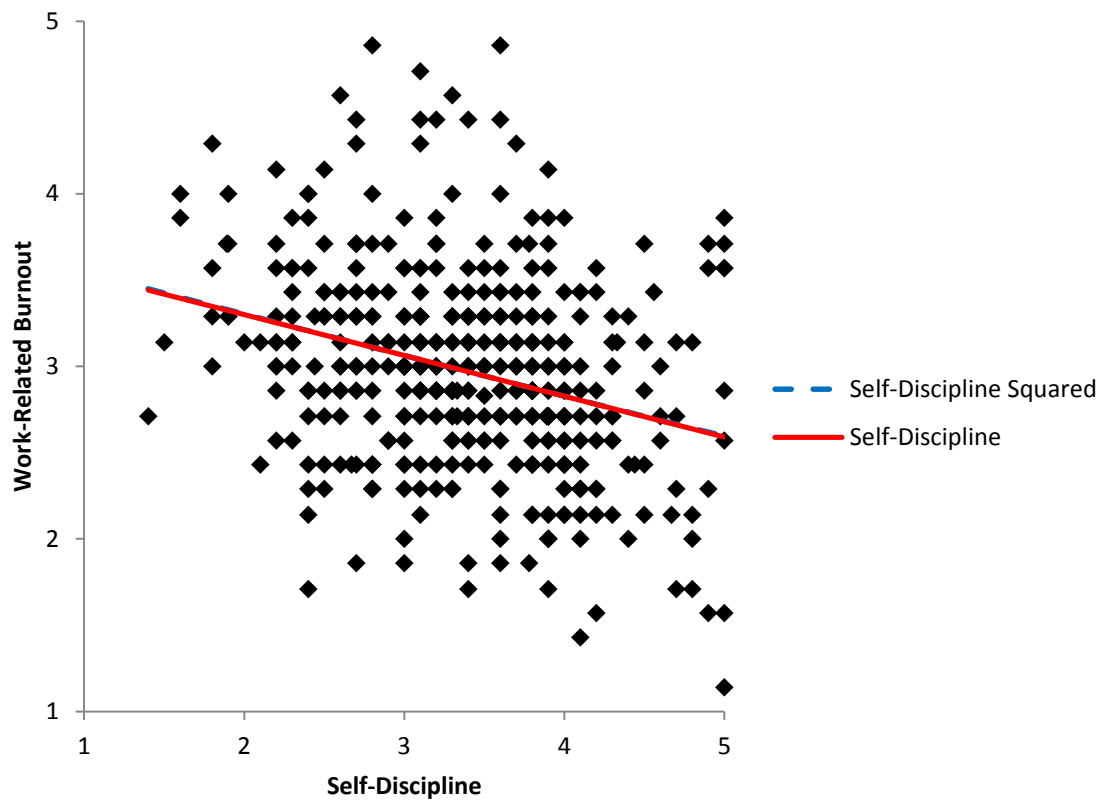


Figure 10: The Relationship between Personal Burnout and Order at different levels of Depression

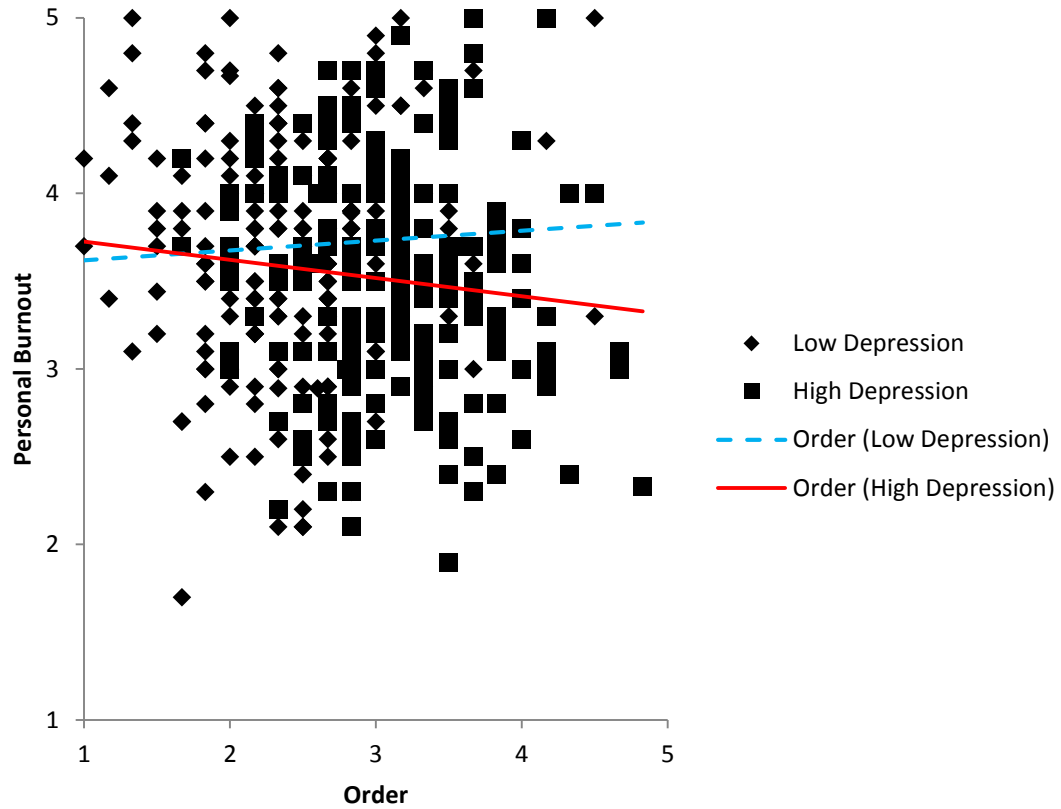


Figure 11: The Relationship between Personal Burnout and Order at different levels of Vulnerability

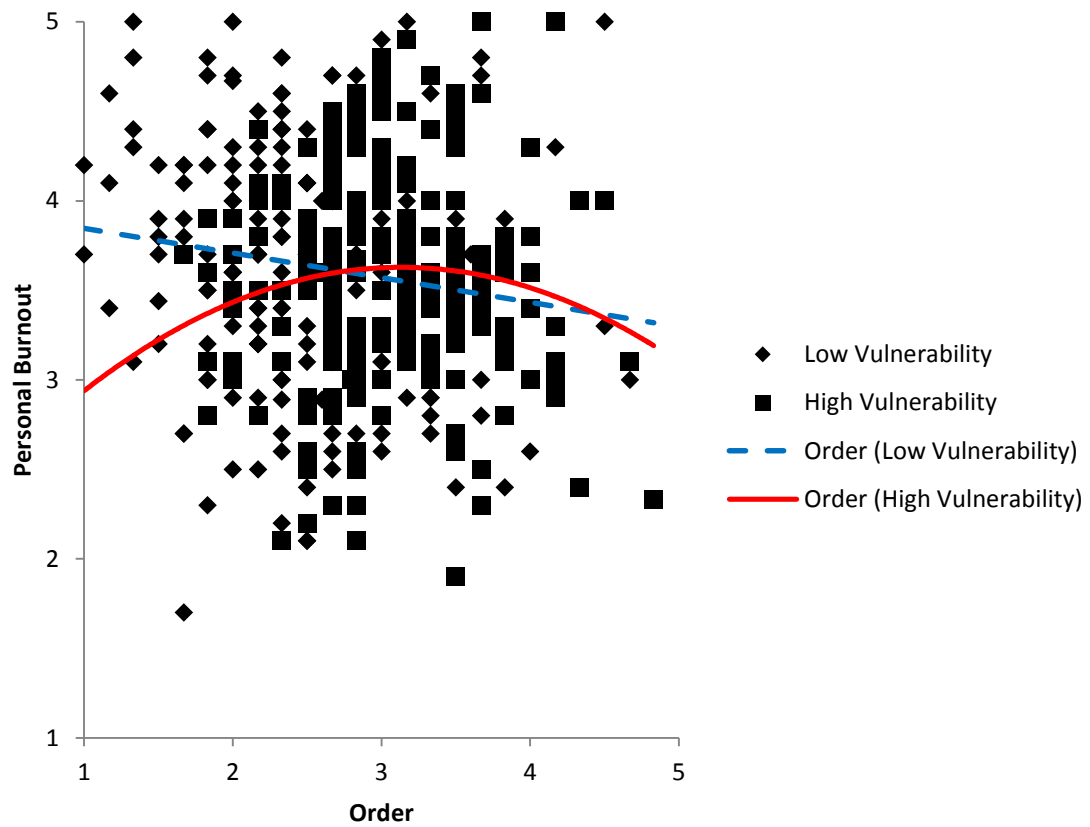


Figure 12: The Relationship between Work-Related Burnout and Self-Discipline at different levels of Depression.

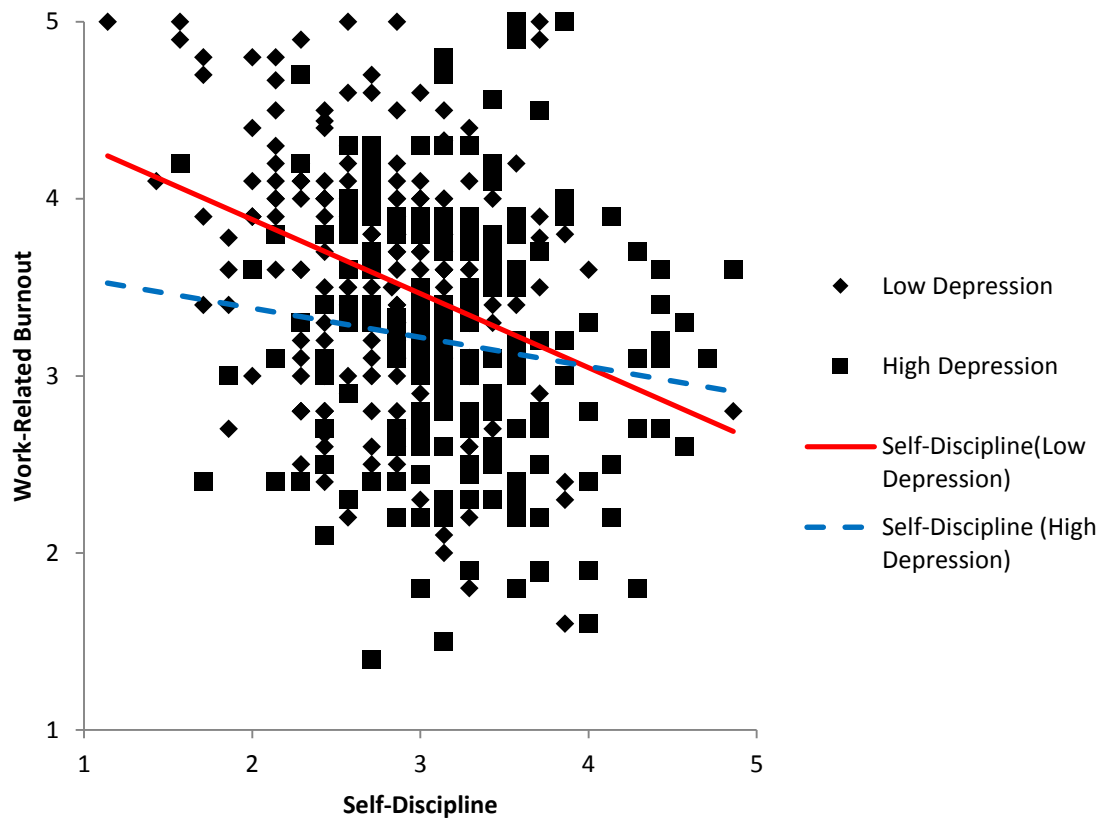


Table 1

Means, Standard Deviations, Reliabilities and Correlations.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Personal Burnout	2.77	.68	(.85)								
2. Work-Related Burnout	2.97	.58	.56**	(.73)							
3. Trust	3.38	.66	-.35**	-.19**	(.89)						
4. Cooperation	3.54	.56	-.14*	-.14*	.41**	(.74)					
5. Order	3.61	.65	-.09	-.09	-.01	.10*	(.83)				
6. Self-Discipline	3.38	.71	-.25**	-.29**	.22*	.20*	.52**	(.89)			
7. Vulnerability	2.62	.71	.54**	.45**	-.29**	-.14*	-.12*	-.39**	(.88)		
8. Depression	2.32	.75	.57**	.40**	-.39**	-.16**	-.18**	-.37**	.63**	(.88)	
9. Openness	3.56	.61	.02	-.10*	.14**	.20**	.02	-.07	-.18*	.05	(.79)

Note. $N = 440$. Cronbach's α values are in parentheses on the diagonal. * $p < .05$, ** $p < .01$ (Two tailed)

Table 2

Regression analysis examining the relationship between trust and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	-.03	.04	.04**	5.53*	-.06	.06	.06*	8.67*
	Gender	-.16*				-.08			
	Ethnicity	.04				.03			
2	Trust	-.34*	.15	.11*	56.27*	-.15*	.08	.03*	12.68*
3	Trust ²	-.04	.15	.00	.61	-.09	.04	.01	2.44

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 3

Regression analysis examining the relationship between cooperation and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	-.00	.04	.04**	5.53*	-.16*	.06	.06*	8.67*
	Gender	-.28*				-.15*			
	Ethnicity	.04				.00			
2	Cooperation	-.17*	.05	.02*	8.60*	-.13*	.07	.02*	7.08*
3	Cooperation ²	-.03	.05	.00	.21	-.04	.07	.00	.59

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 4

Regression analysis examining the relationship between order and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	-.05	.04	.04*	5.53*	-.06	.06	.06*	8.67*
	Gender	-.18*				-.09			
	Ethnicity	.00				.03			
2	Order	-.09	.05	.01	3.68	-.03	.06	.01	3.10
3	Order ²	.04	.05	.00	.65	.09	.07	.00	1.34

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 5

Regression analysis examining the relationship between self-discipline and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	-.01	.04	.04*	5.53	-.02*	.06	.06*	8.67*
	Gender	-.09				-.18*			
	Ethnicity	.05				-.01			
2	Self-discipline	-.17*	.09	.06*	25.97*	-.22*	.13	.07*	35.21*
3	Self-discipline ²	.10	.09	.00	.03	-.01	.13	.00	.05

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 6

Regression analysis examining the relationship between depression and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	.00	.04	.04*	5.53*	-.02*	.06	.06*	8.67*
	Gender	-.16*				-.13*			
	Ethnicity	.01				-.02			
2	Depression	.50*	.33	.29*	187.71*	.29*	.19	.13*	69.12*

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 7

Regression analysis examining the relationship between vulnerability and burnout.

Step	Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	.01	.04	.04*	5.53	-.04	.06	.06*	8.67*
	Gender	-.06				.04			
	Ethnicity	.04				.04			
2	Vulnerability	.51*	.29	.25*	155.40*	.44*	.21	.16*	85.18*

Note: $N = 436$. * $p < .05$. β weights are reported after all main effects have been entered.

Table 8

Regression analysis testing the moderating effects of vulnerability and depression on the relationship between order and burnout.

Personal Burnout						Work-Related Burnout			
Step	Variable	β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	.01	.04	.04*	5.53*	-.13*	.06	.06*	8.67*
	Gender	-.10*				-.09*			
	Ethnicity	.00				.00			
2	Order	.02	.33	.29*	93.72	.00	.19	.13*	34.53*
	Depression	.52*				.32*			
3	Order X Depression	.01	.33	.00	.00	.05	.19	.00	.64
4	Order ²	.05	.33	.00	1.53	.07	.19	.00	2.30
5	Order ² X Depression	.06	.33	.00	1.63	.08	.20	.00	1.85
Step	Variable	β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	.05	.04	.04*	5.53*	-.09*	.06	.06*	8.67*
	Gender	-.03				.03			
	Ethnicity	.01				.02			
2	Order	-.02	.29	.26*	77.86*	-.02	.21	.16*	42.87*
	Vulnerability	.47*				.37*			
3	Order X Vulnerability	.06	.30	.00	1.30	-.07	.22	.00	2.13
4	Order ²	.09*	.30	.01	3.31	.09*	.22	.01	3.76†
5	Order ² X Vulnerability	.11*	.31	.01*	4.36*	.08	.23	.00	2.12

Note: $N = 436$. * $p < .05$. † $p = .053$. β weights are reported after all main effects have been entered.

Table 9

Regression analysis testing the moderating effects of depression and vulnerability on the relationship between self-discipline and burnout.

Step	Step and Variable	Personal Burnout				Work-Related Burnout			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
1	Age	.02	.04	.04*	5.53*	-.06	.06	.06*	8.67*
	Gender	-.10*				-.03			
	Ethnicity	-.01				.04			
2	Self-Discipline	.03	.33	.29*	94.37*	-.10	.21	.15*	41.13*
	Depression	.53*				.36*			
3	Self-Discipline X Depression	.10*	.34	.00	2.63	.04	.21	.01 [†]	3.36 [†]
4	Self-Discipline ²	.06	.34	.00	1.83	.08	.22	.00	.78
5	Self-Discipline ² X Depression	.03	.34	.00	.23	.04	.22	.00	.38
Step	Step and Variable								
1	Age	.06	.04	.04*	5.53*	-.09*	.06	.06*	8.67*
	Gender	-.03				-.04			
	Ethnicity	.02				.02			
2	Self-Discipline	-.05	.29	.26*	78.33*	-.14*	.23	.17*	47.76*
	Vulnerability	.51*				.36*			
3	Self-Discipline X Vulnerability	.10*	.30	.00	2.66	.06	.23	.00	1.11
4	Self-Discipline ²	.07*	.30	.00	2.31	.03	.23	.00	.34
5	Self-Discipline ² X Vulnerability	.01	.30	.00	.02	.00	.23	.00	.01

Note: $N = 436$. * $p < .05$. [†] $p < .10$. β weights are reported after all main effects have been entered

Appendix A

IPIP-NEO-PI-R Scale (Goldberg, 1999)

Depression.

Often feel blue.
Dislike myself
Am often down in the dumps.
Have a low opinion of myself.
Have frequent mood swings.
Feel desperate.
Feel that my life lacks direction.
Seldom feel blue. (Reverse Scored)
Feel comfortable with myself. (Reverse Scored)
Am very pleased with myself. (Reverse Scored)

Vulnerability.

Panic easily.
Become overwhelmed by events.
Feel that I'm unable to deal with things.
Can't make up my mind.
Get overwhelmed by emotions.
Remain calm under pressure. (Reverse scored)
Can handle complex problems. (Reverse scored)
Know how to cope. (Reverse scored)
Readily overcome setbacks. (Reverse scored)
Am calm even in tense situations. (Reverse scored)

Trust.

Trust others.
Believe that others have good intentions.
Trust what people say.
Believe that people are basically moral.
Believe in human goodness.
Think that all will be well.
Distrust people. (Reverse scored)
Suspect hidden motives in others. (Reverse scored)
Am wary of others. (Reverse scored)
Believe that people are essentially evil. (Reverse scored)

Cooperation.

Am easy to satisfy.
Can't stand confrontations.
Hate to seem pushy.
Have a sharp tongue. (Reverse Scored)
Contradict others. (Reverse Scored)
Love a good fight. (Reverse Scored)
Yell at people. (Reverse Scored)
Insult people. (Reverse Scored)
Get back at others. (Reverse Scored)
Hold a grudge. (Reverse Scored)

Orderliness.

Like order.
Like to tidy up.
Want everything to be "just right"
Love order and regularity.
Do things according to a plan.
Often forget to put things back in their proper place. (Reverse Scored)
Leave a mess in my room. (Reverse Scored)
Leave my belongings around. (Reverse Scored)
Am not bothered by messy people. (Reverse Scored)
Am not bothered by disorder. (Reverse Scored)

Self-Discipline.

Get chores done right away.
Am always prepared.
Start tasks right away.
Get to work at once.
Carry out my plans.
Find it difficult to get down to work. (Reverse Scored)
Waste my time. (Reverse Scored)
Need a push to get started. (Reverse Scored)
Have difficulty starting tasks. (Reverse Scored)
Postpone decisions. (Reverse Scored)

Openness to Experience.

Believe in the importance of art.

Have a vivid imagination.

Tend to vote for liberal political candidates.

Carry the conversation to a higher level.

Enjoy hearing new ideas.

Am not interested in abstract ideas. (Reverse scored)

Do not like art. (Reverse scored)

Avoid philosophical discussions. (Reverse scored)

Do not enjoy going to art museums. (Reverse scored)

Tend to vote for conservative political candidates. (Reverse scored)

Appendix B

Copenhagen Burnout Inventory (CBI, Kristensen et al., 2005)

Personal burnout.

- How often do you feel tired?
- How often are you physically exhausted?
- How often are you emotionally exhausted?
- How often do you think “I can’t take it anymore”?
- How often do you feel worn out?
- How often do you feel weak and susceptible to illness?

Work-related burnout.

- Do you feel worn out at the end of the working day?
- Are you exhausted in the morning at the thought of another day at work?
- Do you feel that every working hour is tiring for you?
- Do you have enough energy for family and friends during leisure time? (Reverse scored)
- Is your work emotionally exhausting?
- Does your work frustrate you?
- Do you feel burnt out because of your work?

Appendix C

Demographics Questionnaire

What is your age?

What is your gender?

What is your race?

What is your major?

What year are you (e.g., Freshman, Sophomore, Junior, Senior)?

Appendix D

Informed Consent

Hello, my name is Dave Periard and I am a graduate student in the Wright State University Psychology Department. I would like to invite you to take part in a research study I am conducting to complete my master's degree in Industrial/ Organizational Psychology and Human Factors.

The purpose of this research is to examine how personality influences your perceptions of work. Your role in this research is to answer a number of personality questions and questions about work. The entire survey should take less than 30 minutes to complete.

Your participation is voluntary. There are no known risks in participating in this research. Students will receive 1 research credit for their participation; there is no penalty for early withdrawal. By participating, you will help me to complete my thesis so I can obtain my Master's degree.

This study is anonymous. I will not collect any information on your identity. Your consent is implied by your participation in the study. No individual information will be supplied to your employer; only aggregate, or group, data will be presented or published.

You are free to refuse to participate in this study or to withdraw at any time. Refusal to participate will involve no penalty.

If you have any questions about this research study you may contact me at the number below. If you have general questions about giving consent or your rights as a research participant in this research study, you can call the Wright State University Institutional Review Board at 937-775-4462.

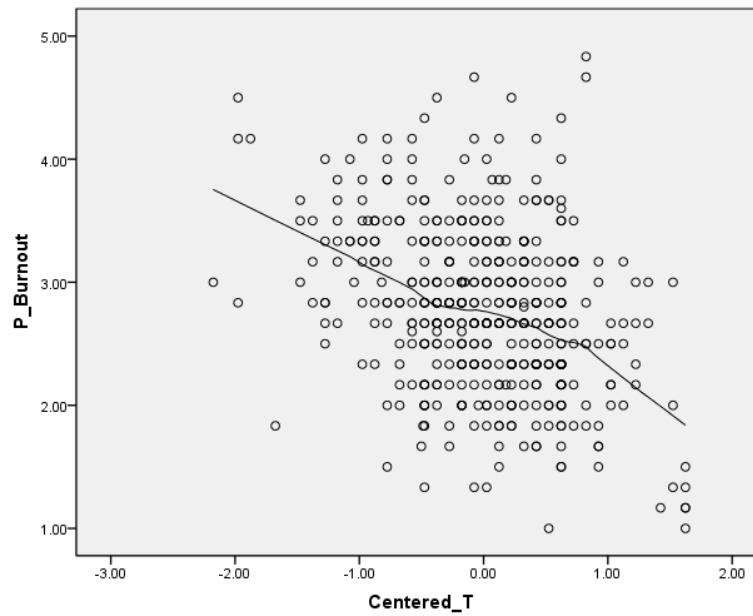
If you would like a copy of this cover letter, please contact me. My email address, and the email address of my advisor, is contained in the contact information below.
Thank you for your time!

David A. Periard
Periard.2@wright.edu
Wright State University
3640 Colonel Glenn Highway
Dayton, OH 45435

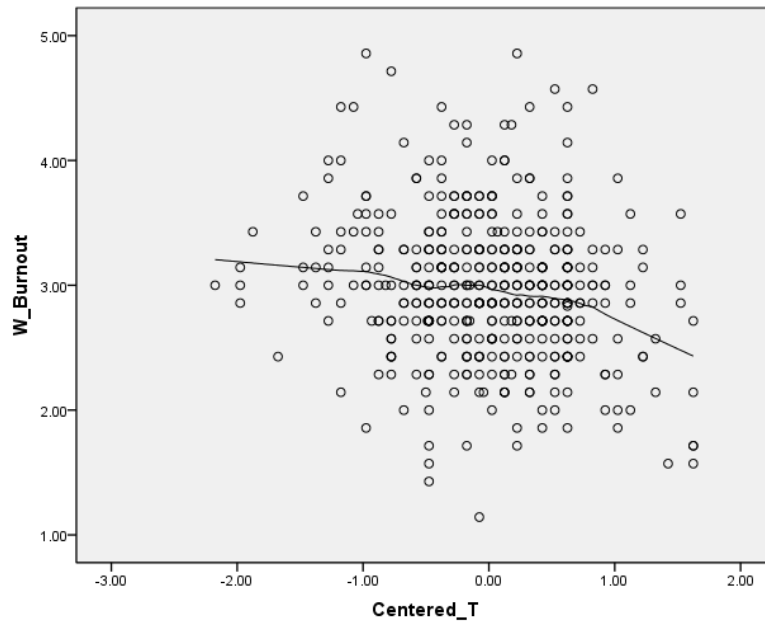
Gary N. Burns
Gary.burns@wright.edu
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Dayton, OH 45435

INFLUENCE OF PERSONALITY ON BURNOUT

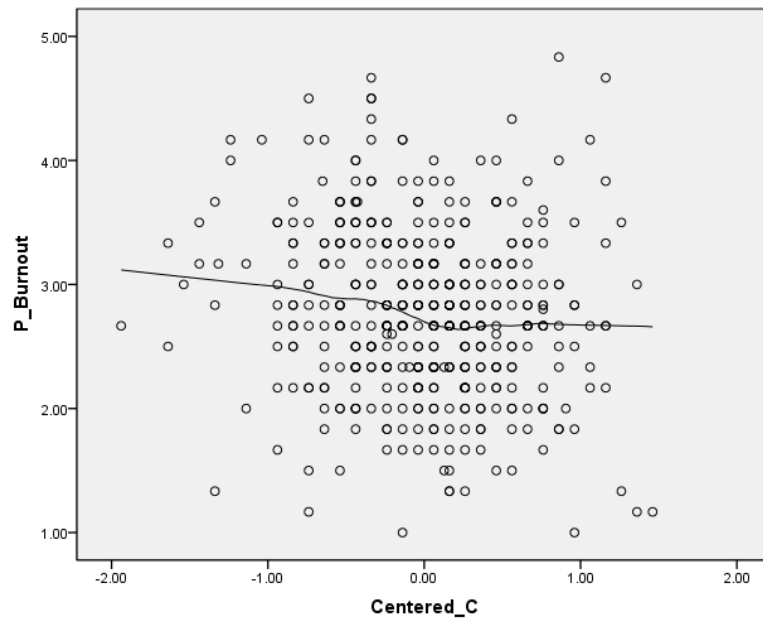
Appendix E



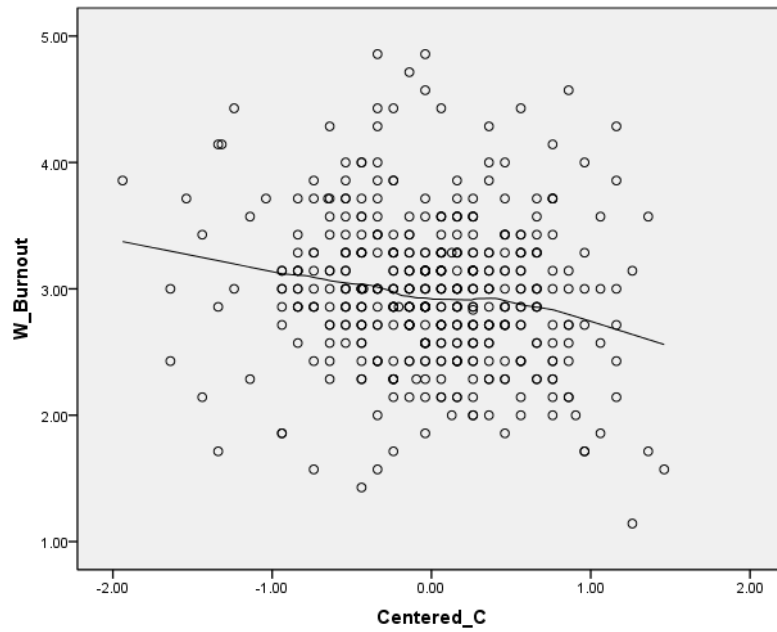
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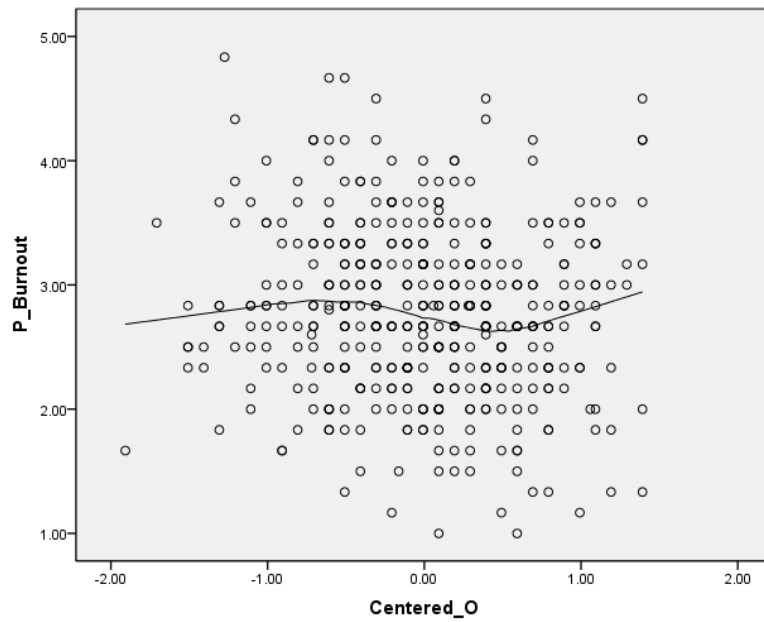
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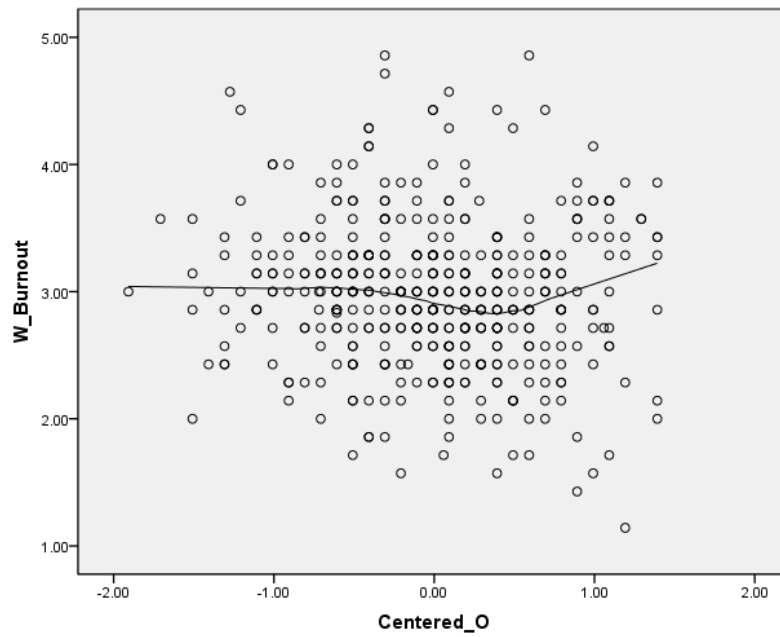
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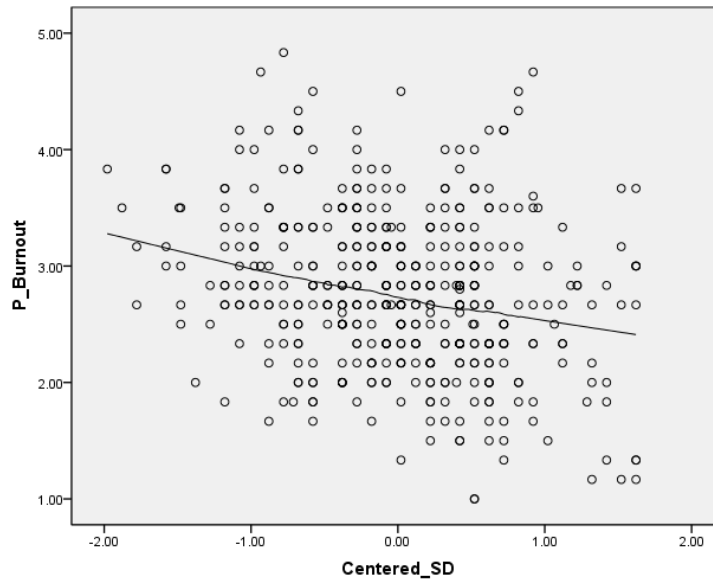
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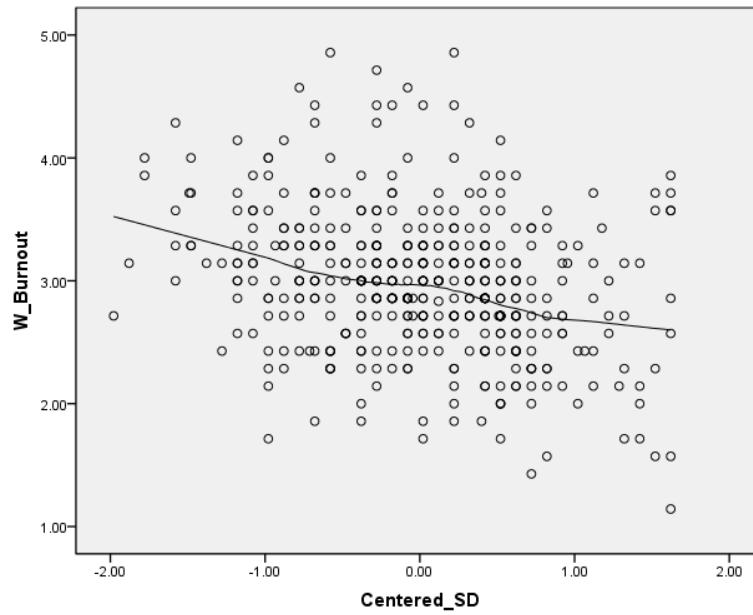
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EDUCATION

Le Moyne College, Syracuse, NY.

B.S. in Psychology with Departmental Honors, *Magna cum Laude* 2008

Minor: Philosophy

Departmental Honors Thesis: ““A Test of the Predictive
Validity of the Performance Failure Appraisal
Inventory”

AWARDS

Dean’s Scholarship, Le Moyne College 2004–2008

TEACHING EXPERIENCE

Teaching Assistant (Dr. Bowling): Introduction to Research Methods 2013

Teaching Assistant (Dr. Gordon and Mr. Shively): Introduction to Psychology
2012-2013

RELATED EXPERIENCE

Morrisville State College, Morrisville, NY

Tutor and Lead Proctor July 2011 – July 2012

Assisted students in the Educational Opportunity
Program with course work and adjusting to college; also
oversaw study sessions and was responsible for
discipline and detailed notes for each session.

Le Moyne College, Syracuse, NY

Tutor January 2011 – June 2012

Assisted students in an inner city high school with
course work, provided college advice, and oversaw the
development of a robot for a robotics competition.

PUBLICATIONS AND PAPERS

Periard, D., Morris, M., Shoda, E., Burns, G. (2013, April). *Relationships between Big Five diagonals, turnover intent, and accidents.*

Presented at SIOP Annual Conference, Houston, TX.

Shoda, E., Tristan, E., Morris, M., Burns, G., Periard, D. (2013, April). *Using bogus items to detect faking in service jobs.*

Presented at SIOP Annual Conference, Houston, TX.

Burns, G., Christiansen, N., Morris, M., Periard, D., Coaster, J. (2013). Effects of applicant personality on resume evaluations.

Journal of Business and Psychology. Under revision.

Periard, D., Burns, G. (2013) The Relative Importance of Big Five Factors in the Prediction of Emotional Exhaustion.

Personality and Individual Differences. Under revision.

Periard, D. A., Burns, G. N. (2014, March) *Personality and Burnout: An Unfinished Puzzle.* Poster presented at the 2014 Society for Personality Assessment Conference, Arlington, VA.

Morris, M. B., Burns, G.N., & Periard, D. A. (2014). *Circumplex traits versus facet traits.* Poster presented at the annual conference for the Society of Industrial and Organizational Psychology, Honolulu, HI.

Tristan, E., Kung, M., Morris, M. B., Periard, D. A., & Burns, G. N. (2014). Faking of safety-related measures in applicant assessment. In J. Fan (Chair), *Faking may occur and matter: It's about when, not whether.* Symposium at the annual conference for the Society of Industrial and Organizational Psychology, Honolulu, HI.

MEMBERSHIPS

Society for Industrial/Organizational Psychology

Society for Personality Assessment

International Society of the Rorschach and Projective Methods